

### IN THE REMARKS

In the Office Action of December 30, 2003, claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Luukkala (U.S. Patent No. 4,833,928).

Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Luukkala in view of Nakaoka et al. (U.S. Patent No. 5,251,491).

Claims 4-7 were allowed in the Office Action of December 30, 2003.

Applicants respectfully traverse the § 103(a) rejection to claim 1 in view of Luukkala. It would not have been obvious for one skilled in the art to substitute the "sound source" of Luukkala with an air pulse for applying a pulse of fluid to a web as set forth in claim 1 of Applicants' application.

The entire disclosure of Luukkala is directed towards using a sonic device such as a loud speaker 3 for generating a membrane wave on a paper web 1 (see Luukkala at column 3, lines 38-42; and at column 4, lines 32-33, 45-46, and 54-55). Luukkala proposes alternatives to the loud speaker 3 that are equivalent substitutes because they produce frequencies between the order of 100 to 500 hz (see Luukkala at column 5, lines 25-27). The sound source may be a compressed air whistle pipe (see Luukkala at column 5, lines 23-25). A compressed air whistle pipe is a whistle that is dependent on compressed air for operation. Applicants respectfully submit that a compressed air whistle pipe does not induce a wave 2 on the web 1 by shooting air onto the web 1, but instead causes a wave brought about by sound vibrations due to the blowing of the compressed air whistle.

The teachings of Luukkala are not sufficient for one of ordinary skill in the art having Luukkala before him or her to make the proposed substitution between a sonic

method of generating a web, and an air pulse for applying a pulse of fluid to the web to create a wave in the web. In this instance, Luukkala specifically teaches that an air pulse for applying a pulse of fluid to a web in order to create a wave in the web should not be used. Quoting directly from Luukkala at column 1, lines 62-65:

The first method compressed air blowing has proved rather inaccurate. In addition, because the method requires the nozzle to be applied very close to the paper web, the hazard of tearing is high.

Luukkala therefore specifically distinguishes the invention of Luukkala from other devices that create waves in a web. Luukkala teaches one skilled in the art that one should not use an air pulse because such mechanisms are inaccurate. Additionally, Luukkala further teaches away from the use of an air pulse by explicitly stating that these types of mechanisms are inferior because they create tears in the web. It would not have been obvious for one skilled in the art upon viewing Luukkala to use an air pulse when Luukkala specifically teaches that such a mechanism is inferior, inaccurate, unfavorable, and has disadvantages associated therewith.

Modifying Luukkala as suggested in the Office Action of December 30, 2003 would render the apparatus of Luukkala unsuited for its primary intended purpose and would be directly contrary to the teachings of the reference. Luukkala is specifically aimed at overcoming disadvantages associated with an air pulse by using a loud speaker or equivalent device at an appropriate frequency to generate a wave (see Luukkala at column 2, lines 25-33). The equivalent devices are stated as being a compressed air whistle pipe or other equivalent sonic device using frequencies between 100 and 500 hz (see Luukkala at column 5, lines 23-27).

Use of an air pulse in Luukkala would render the resulting device unsatisfactory for its intended purpose because Luukkala is specifically directed towards an apparatus that seeks to eliminate the use of an air pulse to create a wave. Where the required modification would render the device inoperable for its intended purpose, there is a teaching away rather than a suggestion to modify the reference.

Luukkala does not provide any motivation for one skilled in the art to substitute the sonic device disclosed therein with an air pulse as set forth in claim 1 of Applicants' application. In fact, Luukkala actually motivates one of ordinary skill in the art not to use an air pulse for the above-mentioned reasons. Therefore, not only does Luukkala fail to provide for the necessary motivation to be modified by one of ordinary skill of the art, the reference actually motivates one **not** to modify Luukkala in the manner set forth in the Office Action of December 30, 2003.

The teaching or suggestion to make the apparatus as set forth in claim 1 of Applicants' application must be found in the prior art, and not in Applicants' disclosure. Absent Applicants' disclosure, there is simply no motivation for one skilled in the art to modify Luukkala so that the resulting device includes an air pulse for applying a pulse of fluid to the web.

As such, Applicants respectfully submit that claim 1 defines over Luukkala and is in condition for allowance. Further, all claims that depend from claim 1 (claims 2 and 3) are also in condition for allowance. Their rejections being made moot due to the allowance of claim 1.

Applicants respectfully submit that all claims are allowable and that the application is in condition for allowance. Favorable action thereon is respectfully

requested. The Examiner is encouraged to contact the undersigned at the Examiner's convenience in order to resolve any remaining issues.

Respectfully submitted,

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